

***LineUp With Math™* Alignment**
Mathematics Content Standards and
Performance Standards (Grade Level Expectations) [PSGLEs]
Fourth Edition – March 2006

Content Standard A: Mathematical Facts, Concepts, Principles, and Theories

Content Strand: Estimation and Computation

Estimation:

PSGLE

The student solves problems (including real-world situations) using estimation by

[7] E&C-1 identifying or using [a variety of **L**] strategies, including truncating, rounding, front-end estimation, compatible numbers, to check for reasonableness of solutions (M3.3.1)

***LineUp With Math™* Activities**

--Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

[7] E&C-2 comparing results of different strategies (L) (M3.3.1)

--Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.

Computation:

PSGLE

The student accurately solves problems (including real-world situations) by

[7] E&C-6 solving proportions using a given scale (M3.3.6)

***LineUp With Math™* Activities**

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

Content Standards B, C, D, and E: Process Skills and Abilities

Content Strand: Problem Solving

PSGLE

The student demonstrates an ability to problem solve by

[7] PS-1 selecting, modifying, and applying a variety of problem-solving strategies (e.g., working backwards, drawing a picture, Venn diagrams) and verifying the results (M7.3.2)

***LineUp With Math™* Activities**

--Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.

[7] PS-2 evaluating, interpreting, and justifying solutions to problems (M7.3.3)

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Content Strand: Communication

PSGLE

The student communicates his or her mathematical thinking by

[7] PS-3 representing mathematical problems numerically, graphically, and/or symbolically; or using appropriate vocabulary, symbols, or technology to explain, justify, and defend strategies and solutions (M8.3.1, M8.3.2, & M8.3.3)

***LineUp With Math™* Activities**

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

Content Strand: Reasoning

PSGLE

The student demonstrates an ability to use logic and reason by

[7] PS-4 using informal deductive and inductive reasoning in concrete contexts or stating counterexamples to disprove statements; or justifying and defending the validity of mathematical strategies and solutions using examples (M9.3.1, M9.3.2, & M9.3.3)

***LineUp With Math™* Activities**

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Content Strand: Connections

PSGLE

The student demonstrates the ability to apply mathematical skills and processes across the content strands by

[7] PS-5 using real-world contexts such as science, humanities, peers, and community (M10.3.1 & M10.3.2)

***LineUp With Math™* Activities**

--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.